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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/375,328	08/17/1999	AHMAD R. ANSARI	M-7669-US	4890

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EXAMINER

KISS, ERIC B

ART UNIT	PAPER NUMBER
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2122

DATE MAILED: 08/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/375,328

Applicant(s)

ANSARI, AHMAD R.

Examiner

Eric B. Kiss

Art Unit

2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 31-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 August 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. Claims 1-30 have been examined.

Election/Restrictions

2. During a telephone conversation with Eric Stephenson (Reg. No. 38321) on August 16, 2002 a provisional election was made without traverse to prosecute the invention of group 1, claims 1-30. Affirmation of this election must be made by applicant in replying to this Office action. Claims 31-40 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "400" in Fig. 4.
4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "530" in Fig. 5.

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5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character “528” has been used to designate both “context switch” and “block” in Fig. 5 (see page 25, lines 13 and 15 in the specification).

Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

Specification

The disclosure is objected to because of the following informalities:

7. On page 16, line 7, “Buss Error exception” should apparently read “Bus Error exception”.

8. On page 28, lines 12-14, the sentence beginning this paragraph should presumably start with the word “In” and the singular nouns “block” and “program” should presumably be replaced with their plural forms.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

10. Claims 1-11, 14-23, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,803,620 to Inagami et al.

As per claim 1, Inagami teaches a method for identifying use of vector data (see Fig. 2, EXVP instruction description) and implementing at least one instruction for transferring vector data between a memory and a buffer accessible by a processor (see Fig. 4b, VL and VST instructions).

As per claim 2, Inagami further teaches implementing a synchronization instruction to synchronize accessing and processing vector data (see column 10, lines 15-25).

As per claim 14, Inagami teaches a data processing system (see Fig. 1) including means for identifying use of vector data (see Fig. 2, EXVP instruction description), at least one instruction for transferring vector data between a memory and a buffer (vector register) accessible by a processor (see Fig. 4b, VL and VST instructions), and a synchronization instruction to synchronize accessing and processing vector data (see column 10, lines 15-25).

As per claims 3, 4, 15, and 16, Inagami further teaches a method and data processing system (see Fig. 1) including instructions for transferring data from the memory to the buffer (vector register) and from the buffer (vector register) to the memory (see Fig. 4b, VL and VST instructions, respectively).

As per claims 5, 6, 17, and 18, Inagami further teaches a method and data processing system (see Fig. 1) including instructions for transferring data from the general-purpose register to the buffer (scalar register in vector processing unit) and from the buffer (scalar register in vector processing unit) to a general-purpose register (see Fig. 2, MVSG and MVGS instructions, respectively).

As per claims 7 and 19, Inagami further teaches a method and data processing system (see Fig. 1) including at least one instruction for determining whether the buffer is available for use (see column 10, lines 15-25).

As per claims 8-11 and 20-23, Inagami further teaches a method and data processing system (see Fig. 1) with vector instructions that include information about the starting address, length, and stride of a vector stream and the starting address of the buffer (vector register identifier) (see column 6, lines 11-42 and Fig. 4b).

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As per claim 26, Inagami further teaches a data processing system containing a vector transfer unit (vector processing mechanism) operable to perform burst transfers of the vector data based on at least one instruction (see column 1, lines 32-35).

11. Claims 1, 12-14, 24, 25, 27, 29, and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,016,395 to Mohamed.

As per claims 1 and 14, Mohamed teaches a method and data processing system (see Fig. 3) including means for identifying use of vector data (see Fig. 2), at least one instruction for transferring vector data between a memory and a buffer (vector register) accessible by a processor (see column 4, lines 20-34), and a synchronization instruction to synchronize accessing and processing vector data (see column 19, lines 18-28).

As per claims 12, 13, 24, and 25, Mohamed further teaches a method and data processing system (see Fig. 3) with instructions including information indicating width of the vector data and whether the vector data is integer or floating point type (see column 3, lines 22-39 and column 11, lines 23 and 24).

As per claims 27, 29 and 30, Mohamed further teaches a data processing system (see Fig. 3) wherein a compiler identifies the use of vector data in a program that contains a vector data indicator (VIVID instruction) and implements at least one vector transfer instruction when the compiler recognizes the vector data indicator (see column 3, lines 1-15).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 14, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,247,696 to Booth in view of Inagami.

Booth discloses with such a data processing system (see Fig. 1) including means for identifying use of vector data (see column 5, lines 35-44), at least one instruction for transferring vector data between a memory and a buffer accessible by a processor (see column 6, lines 27-39). Booth further teaches a compiler identifying the use of vector data based whether the data is used in a program loop (see column 5, lines 35-44). Booth fails to teach a synchronization instruction to synchronize accessing and processing vector data. However, Inagami teaches implementing a synchronization instruction to synchronize accessing and processing vector data (see column 10, lines 15-25).

Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to modify the system of Booth by adding a synchronization instruction as once taught by Inagami. One would be motivated to do so to allow for signaling to a processor that a vector read/write operation had been completed, marking the vector data valid and usable by the processor.

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Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B. Kiss whose telephone number is (703) 305-7737. The examiner can normally be reached on Tue. - Fri., 7:30 am - 4:00 pm. The examiner is also available on alternate Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse can be reached on (703) 308-4789.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, DC 20231

Or faxed to:

(703) 746-7239 (for formal communications intended for entry)


Or:

(703) 746-7240 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, 22202, Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

EBK
August 22, 2002


TUAN Q. DAM
PRIMARY EXAMINER